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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/021,341

12/12/2001

Yongcai Wang

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08/23/2006

Patent Legal Staff

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EXAMINER

SCHWARTZ, PAMELA R

ART UNIT

PAPER NUMBER

1774

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/021,341

Applicant(s)

WANG ET AL.

Examiner

Pamela R. Schwartz

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,5,8-15,17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5,8-15 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

Art Unit: 1774

1. Claims 1, 8, 9, 11-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al. (EP 903,246) for reasons of record and for reasons given below.

Kitamura et al. disclose an ink jet recording material comprising one or more ink receiving layers on a support (p. 3, lines 43-50). The ink receiving layers include colloidal pigment particles that may be of colloidal silica and have an average particles size of 10 to 300 nm and an ultraviolet ray absorber. Calcium carbonate is an additional pigment which may be present in the ink receiving layers [000020, 0021]. The UV absorber is present in an amount of .25 to 25 parts by weight per 100 parts of the total amount of pigment (p. 5, lines 22-24). The ink receiving layer(s) may also contain an antioxidant which is present in an amount of 1 to 10,000 parts by weight by 100 parts UV absorber (see p. 5. lines 53-57). The antioxidants may be phenolic or sulfur containing, among others (see p. 6, lines 3-44). Antioxidants may be used as a water insoluble powder or as an emulsion, have an average particle size of 500 nm or less, and are used in an amount from 0.5 to 25 parts by weight per 100 parts by weight of the pigment. These materials are mixed with binder and other additives (see p. 6, line 45 to Page 7, lines 23). The binder may be a water-soluble polymer or a latex polymer. Binder is present in an amount of preferably 5 to 100 parts by solid weight to 100 parts by weight of the pigment. Using the ratios set forth above, pigment, binder and antioxidant may be present in the amounts set forth by the instant claims.

Additionally, the reference discloses that dispersants may be present. It would have been obvious to use known additives such as a dispersant in quantity necessary

Art Unit: 1774

to properly disperse the materials. The prior art discloses use of either one ink receiving layer or two such layers (see page 7, line 56 to page 8, line 6). It appears that that the layers may be the same or different in composition since the additional layer that is not exposed is not required to have UV absorber present. The outermost layer is present in an amount of 1 to 30 g/m<sup>2</sup> which should permit stabilizer to be present in the range recited by claim 13.

From the description of the ink receiving layer in the reference, the ink receiving layer will be capable of holding ink near the surface above the base layer when ink is applied. See for example, [0046] where the reference states that a cationic compound may be present in the ink receiving layer to enhance ink-fixing and [0053] where the reference describes a "principal" ink receiving layer that is preferably the outermost layer. With respect to claim 17, it is noted that the reference may include a transition metal oxide as the ultraviolet ray absorber [0025]. Applicants include such a material as an inorganic oxide. The reference does not require the presence of an organic ultraviolet ray absorber as well. Therefore, claim 17 is considered to read on Kitamura et al.

2. Claims 1 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al. (EP 903246) as applied to claim 1 above, and further in view of Chu et al. (6,440,537) for reasons of record and for reasons given above.

Chu et al. teach an ink jet recording medium including core/shell latex particles as instantly claimed. While Chu et al. do not refer to the latex particles as a binder, since a binder is normally required but is only an optional ingredient in the

Art Unit: 1774

recording layer of Chu et al., it would have been obvious to one of ordinary skill in the art that the core/shell latex of Chu et al. may be used to serve the function of binder for the layer. This is especially true due to the glass transition temperature of the shell materials of Chu et al. (see col. 3, lines 23-49 and col. 4, lines 41-52). Chu et al. disclose use of the core/shell latex diminishes cracking which would have been an important characteristic in the glossy medium of the primary reference. Consequently, it would have been obvious to one of ordinary skill in the art to utilize core/shell latex as some or all of the binder of the primary reference in order to diminish surface cracks and improve gloss.

3. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al. (EP 903246) as applied to claim 1 above, and further in view of Becker (US 2002/0071019) for reasons of record and for reasons given above.

Becker discloses a recording medium which he wishes to treat with a finishing step in order to embed the image in the medium and to attain a desired degree of gloss (see [0011]). Becker teaches use of a cast-coating method or a method using a calendar roll as alternative finishing steps ([0035]). He also appears to use the term cast-coating process as generic to or overlapping with calendaring methods ([0035] and [0045]).

Kitamura et al. disclose a casting method in order to achieve a high degree of gloss. Based upon the teachings of the secondary art that casting and calendaring methods are known to be alternative methods of obtaining a high gloss finish, it would

Art Unit: 1774

have been obvious to one of ordinary skill in this art to calendar rather than cast coat as an equivalent alternate means of obtaining a glossy surface.

4. Applicant's arguments filed October 11, 2005 have been fully considered but they are not persuasive. Contrary to applicants' assertions, Kitamura et al. do not exclude UV absorbers and antioxidants from layers other than the outermost layer. See for example [0053] which states that "at least one of them [the layers] is the principal ink receiving layer comprising the specific fine colloid particles and the ultraviolet ray absorber." This suggests that more than one layer may be the principal layer and include this specific composition. The examiner agrees that the compositions of the ink receiving layers do not have to be the same, however, disclosures such as that in [0034] suggest inclusion of antioxidant in "at least one layer of the ink receiving layers." The examiner agrees that Kitamura et al. suggests embodiments where ultraviolet ray absorber is only in the outer layer, but there are also embodiments suggested that have ultraviolet ray absorber in multiple layers.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela Schwartz whose telephone number is (571) 272-1528.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 1774

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

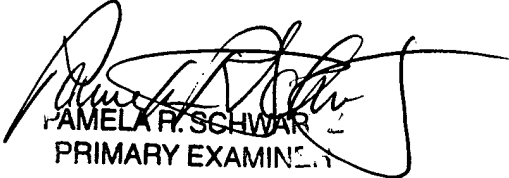
For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

PRSchwartz

August 21, 2006



PAMELA R. SCHWARTZ  
PRIMARY EXAMINER